

**Amendments to the Claims**

Please cancel Claims 5, 10 and 18. Please amend Claims 6, 7, 11-14 and 16-17. Please add new Claim 33. The Claim Listing below will replace all prior versions of the claims in the application:

**Claim Listing**

1. (Previously Presented) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering autologous uncultured mesenchymal stem cells into a degenerated intervertebral disc.
2. (Original) The method of Claim 1, wherein the cells are concentrated prior to being administered into the intervertebral disc.
3. (Original) The method of Claim 2, wherein the cells are concentrated by centrifugation.
4. (Original) The method of Claim 2, wherein the cells are concentrated by filtration.
5. (Canceled)
6. (Currently Amended) The method of ~~Claim 5~~ Claim 1, wherein the cells are administered to the disc using a carrier, wherein the carrier is selected from the group consisting of beads, microspheres, nanospheres, hydrogels, gels, polymers, ceramics, collagen and platelet gels.
7. (Currently Amended) The method of Claim 1, wherein an additional therapeutic agent is administered into the intervertebral disc, and wherein said additional therapeutic agent is ~~a growth factor~~ TGF- $\beta$ .

Claims 8.-10. (Canceled)

11. (Currently Amended) The method of ~~Claim 10~~ Claim 7, wherein the TGF- $\beta$  and the cells are administered into the intervertebral disc using a carrier, wherein the carrier is selected from the group consisting of beads, microspheres, nanospheres, hydrogels, gels, polymers, ceramics, collagen and platelet gels.
12. (Currently Amended) The method of Claim 7, wherein the ~~additional therapeutic agent~~ TGF- $\beta$  is administered simultaneously with administering the cells to the disc.
13. (Currently Amended) The method of Claim 7, wherein the ~~additional therapeutic agent~~ TGF- $\beta$  is administered prior to administering the cells to the disc.
14. (Currently Amended) The method of Claim 7, wherein the ~~additional therapeutic agent~~ TGF- $\beta$  is administered after administering the cells to the disc.
15. (Original) The method of Claim 1, wherein the cells are administered into the intervertebral disc in a formulation with a volume of between about 0.5 ml and about 10 ml.
16. (Currently Amended) The method of ~~Claim 10~~ Claim 11, wherein the carrier comprises a hydrogel.
17. (Currently Amended) The method of ~~Claim 10~~ Claim 11, wherein the carrier comprises microspheres.
18. (Canceled)
19. (Canceled)
20. (Original) The method of Claim 1, wherein the cells are administered into the nucleus pulposus of the disc.

21. (Original) The method of Claim 1, wherein the cells are administered into the annulus fibrosus of the disc.
22. (Original) The method of Claim 1, wherein a portion of the nucleus pulposus is removed prior to administering the cells into the intervertebral disc.
23. (Original) The method of Claim 1, wherein the cells are administered through a needle.
24. (Previously Presented) The method of Claim 23, wherein the needle bore has a maximum gauge of about 24 gauge.

Claims 25.-26. (Canceled).

27. (Withdrawn) A formulation for treating degenerative disc disease, comprising:
  - a) autologous uncultured mesenchymal stem cells; and
  - b) an additional therapeutic agent,wherein the formulation is present in an amount suitable for administration into a degenerating disc.
28. (Withdrawn) The formulation of Claim 27, wherein the mesenchymal stem cells are provided in a concentrated form.
29. (Withdrawn) The formulation of Claim 27, wherein the additional therapeutic agent is a growth factor.
30. (Withdrawn) A device for administering the formulation of Claim 27 to a degenerated intervertebral disc comprising:
  - a) a chamber containing the formulation; and
  - b) a delivery port adapted to administer the formulation to the disc.

31. (Original) The method of Claim 1, wherein the formulation is administered in an amount of less than about 1 ml.
32. (Previously Presented) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering a growth factor in the TGF- $\beta$  superfamily and autologous uncultured mesenchymal stem cells embedded in collagen gel into a degenerated intervertebral disc.
33. (New) A method of treating degenerative disc disease in an intervertebral disc having a nucleus pulposus, comprising administering autologous uncultured mesenchymal stem cells into a degenerated intervertebral disc immediately following harvesting of the autologous uncultured mesenchymal stem cells.